Environmental Data and Material

FY 2016 Overall Environmental Burden of Business Activities

- Term: April 2016 to March 2017
- Scope: The three works in Japan, Sales/Marketing & Technical Division, and the Production Engineering Center

Input

Energy 770,543GJ (2,432) (non-consolidated)

			(GJ)
Volatile gasoline	5kL	(-1)	161
Kerosene	103kL	(5)	3,784
Diesel	2kL	(-0.2)	81
LPG	114t	(-365)	5,812
City gas	2,293,000m³	(225)	103,178
LNG	0t	(0)	0
Electricity	67,743MWh	(1,136)	657,527

Total 28,075t (-998)

Chemicals*1	136t	(-44)
Raw materials	27,923t	(-956)
Metals	24,407t	(-1,213)
Plastics	3,516t	(257)
Containers, packaging materials	16t	(2)

Water 225,540m³ (-3,075)

Surface water	0m³	(0)
Underground water	128,616m³	(-5,837)
Tap water	96,924m³	(2,762)

Manufacturing

Production Plant

Press

Welding

Machining

Brazing

Coating

Assembly

Recyclable materials

3,505t
(-27)
Resource recovery rate
98.3%

Distribution

Output

Greenhouse Gases 39,603tCO₂ (-846)

CO₂	39,603tCO₂	(-846)
Scope1	5,829tCO₂	(-563)
Scope2	33,774tCO₂	(-283)

Gases Emitted into Atmosphere

SOx	0m³	(-1)
NOx	1,184m³	(-384)
Particulate matter	0.39t	(-0.11)
HCFC-22*2	0.004t	(0.004)
HCFC-225cb*2	0.021t	(0.021)
Hazardous air pollutants*3	1,277 tonnes of dichlorobenzene equivalent	
Photochemical oxidants*3	26 tonnes of ethylene equivalent	

Chemicals*1 32t (-11)

Toluene and xylene	16t	(-4)
Lead and lead compounds	0.3t	(-3)
Other	15t	(-4)

Discharge to Water System

Treated water	110,546m³	(-1,033)
BOD	0.12t	(-0.09)
COD	0.38t	(-0.13)
Nitrogen	0.66t	(-0.08)
Phosphorus	0.05t	(-0.01)

Waste

Waste	3,565t	(-23)
Final disposal	57t	(4)

CO₂ Emissions from Distribution

CO₂	2,839tCO₂	(-6)

Figures in parentheses are the increases or reductions from the previous fiscal year. *1: Also includes chemicals other than the 12 substances that have been targeted for reduction.
*2: HCFC-22 and HCFC-225cb are substances that deplete the ozone layer. *3: Calculated from the volumes of chemicals and SOx, NOx, based on "JEPIX Simple Calculation Sheet2_2."
Energy: Consumption x calorific value; CO_2: Electricity consumption x CO_2 emissions factor; Other fuels: Consumption of other fuels x calorific value x carbon emissions factor x 44/12.
Source for calorific value: Act on the Rational Use of Energy.
Volatile gasoline: 34.6 GJ/kL; kerosene: 36.7 GJ/kL; diesel: 37.7 GJ/kL; LPG: 50.8 GJ/t; daytime electricity purchased: 9.97 GJ/MWh; nighttime electricity purchased: 9.28 GJ/MWh.
Calorific value of city gas (the three works in Japan, Sales/Marketing & Technical Division, and the Production Engineering Center): Hatano Gas, Toho Gas, and Osaka Gas, 45 GJ/1,000 m³.
Source for emissions factors: Appendix 1, Ministerial Ordinance on Calculation of Greenhouse Gas Emissions Arising from the Business Activities of Specified Emitters.
Gasoline: 0.0183 tC/GJ; kerosene: 0.0185 tC/GJ; diesel: 0.0187 tC/GJ; LPG: 0.0161tC/GJ; city gas (Shiga Works and Production Engineering Center): 0.0136 tC/GJ.
Other sources for city gas (Hatano Works, Sales/Marketing & Technical Division (Hadano), Nagoya Works and Sales/Marketing & Technical Division (Kasadera)): Hatano Gas, Toho Gas, 0.0139 tC/GJ.
Electricity: the GHG Emissions Accounting, Reporting, and Disclosure System, 2016. Emissions factors for each utility for FY 2015. Available at: http://ghg-santeikohyo.env.go.jp/calc, retrieved June 2017.
Hatano Works and Sales/Marketing & Technical Division (Hadano): Tokyo Electric Power Company, 0.500 tCO_2/MWh;
Nagoya Works and Sales/Marketing & Technical Division (Kasadera): Chubu Electric Power, 0.486 tCO_2/MWh; Shiga Works and Production Engineering Center: Kansai Electric Power, 0.509 tCO_2/MWh.

Environmental Accounting

- Target Period: April 1, 2016 to March 31, 2017 (FY 2016)
- Scope: Head Office, Three Domestic Works (Hatano, Nagoya, and Shiga), Sales/Marketing & Technical Division (hereinafter referred to collectively as "SMTD"), Production Engineering Center (hereinafter referred to as "PEC")
- Calculation Method: Calculation items are in accordance with the Environmental Accounting Guidelines 2005 issued by the Ministry of the Environment. Business trip expenses are excluded from the calculations.

Environmental Conservation Costs (Scope: Head Office, Three Domestic Works, SMTD and PEC. Unit: ¥1,000)

Category		Key Activities	Investment	Costs
(1) Business Area Costs				
Breakdown	(1)-1 Pollution Prevention Costs	Improvements, checks and inspections of pollution prevention equipment	2,220	82,107
	(1)-2 Global Environmental Conservation Costs	Installing LED lights, update energy-saving furnace and equipment	218,533	95,352
	(1)-3 Resource Circulation Costs	Waste disposal costs	0	75,042
(2) Upstream/Downstream Costs		Redesigning of skids for loading efficiency, etc.	0	0
(3) Administration Costs		Review costs, costs for creating reports, education, greenification, etc.	865	27,106
(4) R&D Costs		R&D costs of EFPs, equipment investment, etc.*	0	151,676
(5) Community Activity Costs		Donations to environmental conservation bodies, etc.	0	30
(6) Environmental Remediation Costs		-	0	0
Total			221,618	431,313

*"Cost" includes depreciation costs. Applies to equipment acquired in 2013 and later. The high cost for research and development is due to large number of specific research goals.

Environment Conservation Benefit (Scope: three domestic works, SMTD, PEC.)

Environmental Conservation Benefit Categories	Environmental Performance Indicators (Units)	FY 2015	FY 2016	Environmental Conservation Benefits
Environmental Conservation Benefit Related to Resources Input into Business Activities	Total energy input volume (GJ)	768,111	770,543	-2,432
	Energy input volume by type: Electricity (MWh)	66,608	67,743	-1,135
	Kerosene (kL)	98	103	-5
	Gasoline (kL)	6	5	1
	City gas (1,000m^3)	2,067	2,293	-225
	LPG (t)	479	114	365
	Water consumption (m^3)	228,615	225,540	3,075
Environmental Conservation Benefit Related to Waste or Environmental Burden Originating from Business Activities	CO_2 emissions (tCO_2)	40,449	39,603	846
	CO_2 emissions per processing value (tCO_2/million JPY)	0.784	0.752	0.032
	Release and transfer of PRTR-specified chemicals (tonnes)*	42	32	11
	Waste (tonnes)	3,588	3,565	23
	Final disposal (tonnes)	54	57	-4
Other Environmental Conservation Benefits	Noise (dB) (maximum value)	70	71	-1
	Vibration (dB) (maximum value)	52	46	6

*Also includes chemicals other than the 12 substances that have been targeted for reduction. For details, see pp. 47, 49, and 50. "Conservation Benefits" shows the results of calculations that include values below the decimal point.

Economic Benefits Associated with Environmental Conservation Activities (Scope: Head Office, Three Domestic Works, SMTD, and PEC. Unit: ¥1,000)

Details of Benefit		Amount
Revenue	Revenue from the sale of recycled waste products and used products	223,438
Cost Reductions	Reductions in energy costs through energy saving	22,378
	Reductions in waste disposal costs through resource saving or recycling	886
Total		246,702

FY 2016 Environmental Performance Data

Works Name			Hatano Works
Address			937 Soya, Hadano-shi, Kanagawa, Japan
Major Products			Radiators, Oil coolers, Air coolers, EGR coolers, Core assy for waste heat recovery systems
Photograph of the Works			
General Environmental Data			
Input	Energy Consumption (GJ)		229,966
	Water (Intake) (m³)		128,860
	Chemicals Handled (t)*		102
Output	Greenhouse Gases	CO_2: Scope1,2 (tCO_2)	11,819
		CO_2 from distribution (tCO_2)	1,623
	Atmosphere	Particulate matter (t)	0.07
		NOx (m³)	19
		SOx (m³)	-
	Water	Volume released (m³)	79,275
		Discharged to:	Rivers (Kaname River)
	Water Quality	BOD (t)	0.07
		COD (t)	0.3
		Nitrogen emissions (t)	0.3
		Phosphorous emissions (t)	0.02
		Release and transfer of chemicals (t)*	29
		Total volume of waste (t)	1,163
		Final disposal of waste (t)	13

Treated Water

Indicator	Regulatory Limit	Performance	
		Minimum	Maximum
Density of hydrogen ions (pH)	5.8 - 8.6pH	7.2	8.1
Mass of suspended matter (SS)	70mg/L or less	Less than 2.0	3.5
Biochemical oxygen demand (BOD)	25mg/L or less	Less than 1.0	1.5
Mineral oils	-	-	-
Animal and vegetable oils	-	-	-
Chemical oxygen demand (COD)	25mg/L or less	Less than 1.0	5.0
Normal hexane extract content	5mg/L or less	Less than 1.0	Less than 1.0
Nitrogen content (T-N)	Less than 100mg/L	3.9	5.3
Phosphorus content (T-P)	Less than 16mg/L	0.07	0.4
Lead and lead compounds	0.1mg/L or less	Less than 0.01	0.03
Copper and copper compounds	1mg/L or less	Less than 0.05	Less than 0.05
Zinc and zinc compounds	1mg/L or less	Less than 0.05	Less than 0.05
Soluble manganese content	1mg/L or less	Less than 0.02	0.02
Iron and iron compounds (soluble)	1mg/L or less	Less than 0.05	0.37

Atmosphere

Indicator			Regulatory Limit	Performance	
				Minimum	Maximum
Painting Booth	Benzene	(ppm)	10ppm	-	-
	Toluene	(ppm)	100ppm	0.2	0.6
	Xylene	(ppm)	150ppm	4	7
Boiler	Particulate matter	(g/h)	-	Excluded from the law since FY 2011, because of the move to LNG and the reduction in combustion capacity	
	SOx	(m³N/h)	-		
	SOx density	(ppm)	-		
	NOx	(m³N/h)	-		
	NOx density	(ppm)	-		
Furnace	Dust density	(g/m³N)	0.2g/m³N or less	0.002	0.007
	SOx emissions density	(ppm)	5ppm or less	n/a	n/a
	NOx density	(ppm)	200ppm or less	2	2
	Concentration of fluorine compounds	(mg/m³N)	2.5mg/m³N	1.7	2.0

PRTR

Indicator	Volume Handled (kg)	Performance (kg)	
		Emissions	Volume Transferred
Water soluble zinc compound	323	4	251
Ethylbenzene	13,017	12,878	139
Xylene	14,536	14,208	139
dichloromethane	0.6	0	0
Chromium and trivalent chromium compounds	9,146	2	0
Chlorodifluoromethane	0	0	0
1,1-dichloro-1-fluoroethane	0	0	0
Toluene	1,394	1,255	139
Lead and lead compounds	44,619	1	319
Nickel	15,770	2	0
Benzene (Gasoline)	0	0	0
1,2,4-trimethylbenzene	2,787	1	0

Nagoya Works	Shiga Works	Sales/Marketing & Technical Division (Kasadera)
1-7 Fujie Aza Orido, Higashiura-cho, Chita-gun, Aichi, Japan	297 Gochicho, Higashiomi-shi, Shiga, Japan	4-14 Shioya-cho, Minami-ku, Nagoya-shi, Aichi, Japan
Radiators, Air coolers, Heater cores	Radiators, Oil coolers, Air coolers, EGR coolers, Fin coil heat exchangers	Trial phase products
		
163,869	285,419	91,289
11,698	62,126	22,856
0.5	32	1
8,284	14,892	4,607
572	644	-
0.02	<0.3	-
377	788	-
Cannot calculate due to measurement value being ND	Cannot calculate due to measurement value being ND	-
8,774	10,502	11,996
Rivers	Sewers	Sewers
0.05	-	-
0.1	-	-
0.4	-	-
0.03	-	-
0.5	0.8	1
803	1,564	35
7	38	0

Regulatory Limit	Performance		Regulatory Limit	Performance		Regulatory Limit	Performance	
	Minimum	Maximum		Minimum	Maximum		Minimum	Maximum
5.8 - 8.6pH	6.9	7.3	6.0 - 8.5pH	Ceased use of integrated water treatment tanks in July 2008.		5.0 - 9.0pH	6.4	7.4
30mg/L or less	Less than 1.0	3.0	Less than 20mg/L			600mg/L or less	Less than 0.5	24.0
30mg/L or less	1.1	6.5	Less than 20mg/L			600mg/L or less	2.4	37.0
-	-	-	-			0.5mg/L or less		Less than 0.5
-	-	-	-			30mg/L or less	-	Less than 0.5
30mg/L or less	4.1	15.0	Less than 20mg/L			25mg/L or less	-	-
5mg/L or less	-	-	-			5mg/L or less	-	-
Less than 120mg/L	3.2	40.0	Less than 20mg/L			-	-	-
Less than 16mg/L	0.9	3.5	Less than 5mg/L			-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-

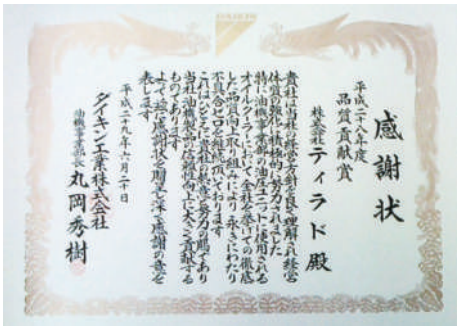
Regulatory Limit	Performance		Regulatory Limit	Performance		Regulatory Limit	Performance	
	Minimum	Maximum		Minimum	Maximum		Minimum	Maximum
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
0.2g/m³N	Less than 0.002	Less than 0.002	0.2g/m³N	ND	Less than 0.025	0.1g/m³N	Less than 0.002	Less than 0.007
0.252m³N/h	Less than 0.002	Less than 0.009	1.75 (K value)	Less than 0.02	Less than 0.3	Less than 0.212m³N/h	Less than 0.002	Less than 0.008
180v/vppm	Less than 25	50	180·230ppm	Less than 5	Less than 10	180v/vppm	Less than 40	50
10mgF/m³N	Less than 0.8	1.1	(3mgF/m³N)	Less than 1.0	Less than 1.0	Less than 10mgF/m³N	Less than 0.8	-

Volume Handled (kg)	Performance (kg)		Volume Handled (kg)	Performance (kg)		Volume Handled (kg)	Performance (kg)	
	Emissions	Volume Transferred		Emissions	Volume Transferred		Emissions	Volume Transferred
0	0	0	0	0	0	0	0	0
1	0.1	0	263	212	25	0.3	0.3	0
1	0.1	0	1,298	269	32	0.5	0.5	0
0	0	0	0	0	0	0	0	0
0	0	0	9,710	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
5	0.2	0	491	205	75	0.5	0.5	0
0	0	0	0	0	0	0	0	0
0	0	0	19,420	0	0	0	0	0
0	0	0	14	0	0	0	0	0
0	0	0	1,165	5	0	0	0	0

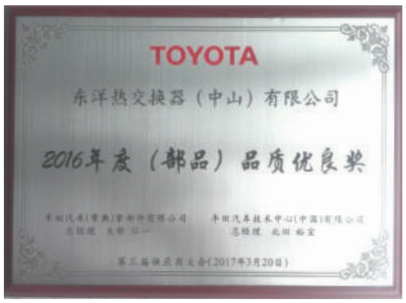
*The value inside the ( ) is the reference value. *The figures for volumes handled, volumes released, and volumes transferred also include chemicals other than the 12 substances targeted for reduction (cf p. 41).
*ND means that it cannot be detected because it is a small value.

External Evaluation

In April 2016, we received a quality award from Toyota's Hirose factory. The "Honor Quality Award" recognized our achievement of zero defects on delivery for the last 4 consecutive years, including FY 2016.



In June 2016, we received a certificate of commendation from Daikin's Yodogawa factory (Oil Hydraulics Division). We were rewarded for our "achievement of zero defects in our deliveries of drawn-cup oil coolers to the Oil Hydraulics Division for 6 years."



We received a 2016 Excellent Quality Award from TMCAP (Toyota Motor (Changshu) Auto Parts).

In March 2017, we received an Outstanding Quality Control Award from Hino Motors.

In November 2016, we received a certificate of commendation for our cleaning of Higashiura town near the Nagoya Works as part of the "2016 Higashiura Town Public Facilities Adoption Program."

Obtained the highest environmental rating of A from the DBJ (Development Bank of Japan)

DBJ 環境格付
2015

The highest rating for "Companies with excellent advanced environmental initiatives"

After undergoing an environmental rating assessment by the DBJ in 2015, T.RAD obtained the highest possible rating and was given a preferential lending rate. The rating is awarded on the basis of an assessment of the company's environmental management, and a preferential interest rate is applied in accordance with this assessment. The assessment criteria are tightened every year to reflect the latest international trends. The fact that we have been getting the same "excellent advanced environmental initiative" assessment since 2012 shows that our environmental management has been continuously improving.

The DBJ website provides a list of Leading Recipients of Financing Based on Environmental Ratings. T.RAD appears on this list. http://www.dbj.jp/en/

Global Reporting Initiative (GRI) Content Index Sustainability Reporting Guidelines (G4)

Source: The GRI website: https://www.globalreporting.org/Pages/default.aspx

This report contains Standard Disclosures from the GRI Sustainability Reporting Guidelines. For General Standard Disclosures, we have selected and referred to the Core items.

General Standard Disclosures		
General Standard Disclosures		Page
Strategy & Analysis		
G4-1	Statement of the organization's most senior decision-maker about the relevance of sustainability to the organization and the organization's sustainability strategy	2
Organizational Profile		
G4-3	Name of the organization	3
G4-4	Primary brands, products, and services	3,5
G4-5	Location of the organization's headquarters	3
G4-6	The number of countries where the organization operates, and names of countries that are specifically relevant to sustainability topics	3,5
G4-7	Nature of the organization's ownership and legal form	3
G4-8	Markets served	3,5
G4-9	Scale of the organization	3,5
G4-10	Employment breakdown	3
G4-11	Percentage of total employees covered by collective bargaining agreements	3
G4-12	Organization's supply chain	21,22
G4-13	Significant changes that occurred during the reporting period	3,21,22
G4-14	Addressing of the precautionary approach or principle	21,22,32,38,41
G4-15	Economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	3
G4-16	Membership status of associations and national or international advocacy institutions	3
Identified Material Aspects and Boundaries		
G4-17	Entities included in the organization's consolidated financial statements and whether any of them are not covered by the report	3,5
G4-18	Process for defining the report content and the Aspect Boundaries, and how the "Principles for Report Content" have been implemented	1,6,31
G4-19	All the material Aspects that have been identified	6, 11, 12, etc.
G4-20	For each material Aspect, the Aspect Boundary within the organization	5, 6
G4-21	For each material Aspect, the Aspect Boundary outside the organization	6, "Reason" on other pages
G4-22	Effect of any restatements of information provided in previous reports, and the reasons for such restatements	12,39,40
G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	1,3
Stakeholder Engagement		
G4-24	List of stakeholder groups engaged by the organization	3, "Engagement" on other pages
G4-25	Basis for identification and selection of stakeholders with whom the organization has engaged	3,9
G4-26	Method of the organization's approach to stakeholder engagement, and whether it was part of the report preparation process	3,24-26,44-46
G4-27	Key topics that have been raised through stakeholder engagement and response, and the stakeholders that raised the topics	22,24,45,46
Report Profile		
G4-28	Reporting period for information provided	1,3
G4-29	Date of most recent previous report	54
G4-30	Reporting cycle	54
G4-31	Contact point for questions regarding the report or its contents	54
G4-32	Selected 'in accordance' option, its GRI Content Index, and reference to the External Assurance Report if report is externally assured	1,54
G4-33	Organization's policy for seeking external assurance for report, scope and basis of external assurance, relationship with assurance providers, and executive officers' involvement in assurance	1,54
Governance		
G4-34	Organization's governance structure Committees responsible for decision-making on economic, environmental, and social impacts	8,10,25,31
Ethics and Integrity		
G4-56	Organization's values, principles, standards, and norms of behavior	6,9,19,25,29,30
Other Non-Core General Standard Disclosures		
G4-2	Key impacts, risks, and opportunities	6,29,44-46
G4-35	Process for delegating authority for economic, environmental, and social topics from the highest governance body	8, 9, 25, 31, etc.
G4-36	Appointment of executive-level officer to be in charge of economic/environmental/social topics. Whether post holders report directly to the highest governance body?	8, 10, 25, 31, 44, etc.
G4-37	Processes for consultation between stakeholders and highest governance body on economic/environmental/social topics, and to whom (consultation) authority is delegated	3, 8, 20, etc.
G4-38	Composition of the highest governance body and its committees	8
G4-39	Is the chair of the highest governance body also an executive officer?	8
G4-42	Highest governance body and executive officers' roles in the approval of organization's purpose and goals related to economic/environmental/social impacts	6, 8, 31, etc.
G4-43	Measures taken to enhance the highest governance body's collective knowledge of economic, environmental, and social topics	8
G4-44	Processes and response measures for evaluation of the highest governance body's governance performance regarding economic/environmental/social topics	8, 31, etc.

Other Non-Core General Standard Disclosures (continued from previous page)		Page
G4-45	The highest governance body's role in the identification and management of economic, environmental, and social impacts, risks, and opportunities. Is stakeholder consultation used to support that?	10,13,19-24
G4-46	The highest governance body's role in reviewing risk management processes for economic, environmental, and social topics	8,13,32
G4-47	The frequency of the highest governance body's review of economic, environmental, and social impacts, risks, and opportunities	8,10
G4-48	The highest committee or corporate position that formally reviews and approves the organization's sustainability report	1,8,31,54
G4-49	The process for communicating critical concerns to the highest governance body	8
G4-50	Reporting the nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them	7,13-16
G4-57	The internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to integrity	8,23
G4-58	The internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity	8,15
Specific Standard Disclosures		
Material Aspects		Page
G4-DMA	The reason why the Aspect is material, the impacts, and evaluation of management approach	6,13,19-23,29,33,39-46
G4-EC1	Direct economic value generated and distributed	26
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	6,45,48
G4-EC4	Financial assistance received from government	3
G4-EN1	Materials used, by weight or volume	47
G4-EN3	Energy consumption within the organization	47-50
G4-EN5	Energy intensity	39
G4-EN6	Reduction of energy consumption	47,48
G4-EN8	Total water withdrawal, by source	41,47
G4-EN9	Water sources affected by water withdrawal	45
G4-EN10	Percentage and total volume of water recycled and reused	41
G4-EN11	Operational sites owned, leased, or managed in protected areas and areas of high biodiversity value outside protected areas	45
G4-EN12	Significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	44-46
G4-EN13	Habitats protected or restored	46
G4-EN14	Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations by level of extinction risk.	46
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	47
G4-EN16	Indirect greenhouse gas (GHG) emissions (Scope 2)	47
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	47
G4-EN18	Greenhouse gas (GHG) emissions intensity	39,48
G4-EN19	Reduction of greenhouse gas (GHG) emissions	47,48
G4-EN20	Emissions of ozone-depleting substances	47
G4-EN21	NOx, SOx, and other significant air emissions	47,49-50
G4-EN22	Total water discharge by quality and destination	47,49-50
G4-EN23	Total weight of waste by type and disposal method	40,47
G4-EN24	Total number and volume of significant spills	32
G4-EN26	Identity, size, protection status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	45
G4-EN27	Extent of mitigation of environmental impacts of products and services	29,33-38
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	40,45,47,48
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	32
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting employees	40,45,47
G4-EN31	Total environmental protection expenditures and investments by type	48
G4-EN33	Significant negative environmental impacts in the supply chain and actions taken	21,22
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	32
G4-LA5	Percentage of total workforce represented in joint management-worker health and safety committees that monitor and advise on occupational health and safety programs (operational level, ratio)	25,26 (Operational report)
G4-LA9	Average hours of training per year per employee	23,24
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	23,24
G4-LA12	Composition of governance bodies and breakdown of employees per employee category	3,24
G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	22,23,24
G4-HR11	Significant negative impacts on human rights in the supply chain and actions taken	22
G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	13,14,17
G4-SO4	Communication and training on anti-corruption policies and procedures	14,15,16
G4-SO5	Confirmed incidents of corruption and actions taken	7
G4-SO6	Total value of political contributions	3
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	3
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	19,33,38
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling	19
G4-PR5	Results of surveys measuring customer satisfaction	19
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	3

Third Party Comments Afterword

Third Party Review of our CSR Report 2017

Professor, Graduate School of Environmental Studies, Tohoku University
Ryo Kohsaka

Born in Shizuoka Prefecture in 1975. Professor, Graduate School of Environmental Studies, Tohoku University. Specializes in regional development, forestry economics, environmental education and environmental management theory. Graduated from the Faculty of Agriculture of the University of Tokyo. Received a Doctoral degree from the Graduate School of Forestry and Environmental Sciences of the University of Freiburg (Germany). Ph.D. (Forestry Economics). Previously worked at the Secretariat of the Convention on Biological Diversity of the United Nations Environment Programme (UNEP) in Montreal, Canada, and at the Nagoya City University and Kanazawa University. Also worked as an advisor to the Promotion Committee for COP10 (10th meeting of the Conference of the Parties to the Convention on Biological Diversity) held in Nagoya 2008–2010. Visiting Professor at the United Nations University Institute of Advanced Studies. Recent main publications include Biodiversity and Our Society (Iwanami Junior Paperback, 2012), Regional Regeneration (Iwanami Booklet, 2011), Japanese Vegetables in Globalizing Era (Shimizu Kōbundō Shobō) (co-writer), and Brand Strategy for Local Production in Agriculture, Forestry and Fisheries (Gyōsei, 2015) (co-editor).

Following the official coming into force of the "Sustainable Development Goals (SDGs)" of the UN on January 1, 2016, this was a year in which many civic societies, private companies, and local authorities questioned what sustainability is and what they can do at grounds. I'm sure a lot of people heard the word "SDGs" used. In this report, the President Mr. Kano commits to the CSR not as a separate issue unrelated to the business, but as the foundation for the company's sustainable growth (p. 2 of this document).

The SDGs are 17 goals and 169 targets for 2030 that were specifically listed in the "2030 Agenda for Sustainable Development" that was adopted at the UN summit in September 2015. In this report, the relationship with the SDGs is marked passim (pp. 39, 44). As with the SDGs, the report has also been designed in a way that the progress with the overall targets of the company, which can be easily understood for the readers. The comparison between 2017 objectives and results achieved in 2016 on p. 11-12 is particularly easy to understand. The environment is also linked to other SDG issues at the global level, including peace and the alleviation of poverty, so there are many other sections in this report where the relationship with SDGs could have been signaled.

It is to be positively noted that the T.RAD has substantially expanded the coverage biodiversity by devoting three pages to it (pp. 44-46). The topic of "addressing topics related to biodiversity" was suggested in last year's Third Party Comments, as well. It is implemented in terms of communication with local communities, the company is conducting community-based activities in collaboration with NPOs and universities (p. 28). It is also recognized that, in response to my request that the company deepen its activities to prevent global warming while preserving the accuracy of the information disclosure and the clarity of its comprehensive vision, the reduction of greenhouse gas emissions has been expressed in an easy-to-understand manner in terms of the equivalent number of cedar trees it would take to account for amount of the carbon dioxide absorbed, with the calculation method shown in the footnotes.

As a result, T.RAD has achieved many of its 2016 targets in fields like biodiversity. However, challenges remain for its initiatives to prevent global warming that, by the company's own account, failed to meet its 2016 targets. I refer, in particular, to its CO_2 emissions and energy consumption per monetary unit. Although a certain amount of fluctuation is unavoidable, I would ask that discussions be held on how targets can be achieved in the long run and creative actions be taken to put the conclusions into practice, regarding CSR as an area to be included in the management of business. Appropriately enough, climate change, which was one of the challenges left unsolved by Millennium Development Goals (MDGs), the predecessors of SDGs, has been highlighted as a big threat. It will take more than one year to work out how T.RAD, as a company, can contribute to the SDGs, so I look forward to reading its reports next year and beyond.

Afterword

We appreciate your taking the time to read the T.RAD CSR Report 2017. This report contains the Standard Disclosures from the GRI Sustainability Reporting Guidelines (G4). We have also expanded our descriptions of information security, our suppliers, the relationship between Sustainable Development Goals (SDGs) and material aspects of the environment, and our engagement with biodiversity.

This report has been published with the approval of the president, executive officers, and each subcommittee (p. 31). Some descriptions of ongoing standards and systems are the same as in the previous report (e.g., "How to Understand Product Environmental Efficiency Indicators" on p. 33). In the future, we hope to further improve this report and make it easier to read based on advice from third parties. We welcome your valuable feedback and comments regarding this report.

[Publisher] T.RAD Co., Ltd. 3-25-3 Yoyogi, Shibuya-ku, Tokyo, 151-0053 Japan
[Editor in Chief] Kazuhiro Watanabe, TMS Dept., T.RAD Co., Ltd.
[Date of Issue] August 2017 [Date of Previous Issue] August 2016 [Date of Next Issue] August 2018 [Reporting Cycle] Yearly
[Contact] Kazuhiro Watanabe, Tetsuo Shiino, Keisuke Okada, Saburo Tominaga, Eriko Tsuchida, TMS Dept., T.RAD Co., Ltd.
Kazuyoshi Umemura, CSR Department TEL: 0463-81-1551 FAX: 0463-85-5116
http://www.trad.co.jp/english/